

REMARKS

Claims 60, 66, 126, and 132-160 are pending in the application.

Claims 60, 66, 157, and 158 are rejected under 35 U.S.C. § 103(a) as being unpatentable over newly-cited Ohyama et al. (US 4,767,927) in view of newly-cited Struye et al. (US 6,392,249).

Claims 133-138 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohyama et al. and Struye et al. in view of previously-cited Fukai et al. (US 4,914,294) and previously-cited Watanabe et al. (US 4,831,626).

Claims 149 and 150 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohyama et al. and Struye et al. in view of newly-cited Yasuda (US 5,602,402).

Claims 126, 132, 159, and 160 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohyama et al. in view of Struye et al.

Claims 139-144 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohyama et al. and Struye et al. in view of Fukai et al. and Watanabe et al.

Claims 151 and 152 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohyama et al. and Struye et al. in view of Yasuda.

Claims 145-148 and 153-156 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

Ohyama et al. relates to an apparatus for reading radiation image information from a temporary storage medium by measuring intensities of accelerated phosphorescence, while projecting exciting light onto the temporary storage medium. An exemplary embodiment of

Ohyama et al.'s device is shown in FIG. 1, in which a light source 30 produces the line-shaped exciting light. A longitudinal axis of the exciting light extends along the line direction Y. The light source 30 is constructed by a lamp for emitting white light, for example. An ellipse mirror 21 is positioned behind the lamp 20 along a light path 29, at a first focal point of the mirror 21. A cylindrical lens 22 is positioned at a second focal point of the mirror 21. Thus, white light incident on the cylindrical lens 22 is shaped to be line-shaped light. A first bandpass filter 23 is positioned near the cylindrical lens 22 in the light path 29, so as to pass only exciting light having a given wavelength.

In FIG. 1, a distributed index lens assembly 26 is arranged in the light path 29, opposite to the cylindrical lens 22 with respect to the imaging plate 10. The distributed index lens assembly 26 functions as light collecting means, thereby collecting the accelerated phosphorescence, or light-modulated image emitted from the imaging plate 10, upon receiving the exciting light 25EL. A second bandpass filter 27 is positioned behind the distributed index lens assembly 26 along the light path 29. The major function of this second bandpass filter 27 is to pass only the accelerated phosphorescence 25AP which has been collected by the distributed index lens assembly 26. At the terminal of the light path 29 a line sensor 28 is positioned to receive the filtered accelerated phosphorescence 25AP from the bandpass filter 27. The line sensor 28 outputs time-sequentially a signal indicating the radiation image information, based upon the accelerated phosphorescence incident thereon.

Struye et al. relates to a method for recording and reproducing images of objects made by penetrating radiation, especially to the recording and reproduction of images obtained by

penetrating radiation in the field of medical diagnosis and in the field of non-destructive testing.

Struye et al. is cited for its disclosure of organic EL devices.

Yasuda relates to a radiation image read-out method and apparatus employing light guide members for collecting light from both sides of a stimuable phosphor sheet.

Applicants respectfully traverse the rejections with the following comments.

Rejection of claims 60, 66, 157, and 158:

Applicants submit that there is no suggestion or motivation to combine Ohyama et al. and Struye et al. The Examiner notes on page 3 of the Office Action that there are many advantages to using organic EL devices. Specifically, the Examiner asserts that by selecting organic EL compounds, the excitation wavelength of an EL device could be tuned to induce maximum emissions from the stimuable phosphor sheet, thus eliminating the need for an optical bandpass filter. The Examiner further asserts that the focusing optics of Ohyama et al. would be eliminated, since the EL device could be positioned at close proximity to the stimuable phosphor sheet. The alleged motivation to combine the teachings of Ohyama et al. and Struye et al. to replace the halogen lamp and its optics with an organic EL device, is to make an image read-out apparatus more compact by eliminating complex optics. However, Applicants submit that the Examiner's asserted motivation to combine the references is simply a general indication of desired properties in a device. Further, the asserted motivation to combine the references is not supported by the references. Although making an image read-out apparatus more compact might be desirable, neither of the cited references suggest replacing the halogen lamp and its optics of Ohyama et al. with the organic EL device of Struye et al. Since the alleged motivation to combine the references is not taught or suggested by the references, but is merely a recitation

of generally desired properties in a device, the alleged motivation to combine the references is deficient.

Additionally, since the EL light source in Struye is in close contact with the stimuable phosphor sheet, the emitted light must be received from the side opposite from the EL light source of the stimuable phosphor sheet. In this case, since the distance for penetrating the stimuable phosphors is long, the amount of the scattering light increases more, whereby the quality of image deteriorates more, compared with a case in which the emitted light is received from the same side of the stimuable phosphor sheet as the light source. When the emitted light is received from the same side of the stimuable phosphor sheet as the light source in order to improve the quality of image, the light source is required to be spaced away from the stimuable phosphor sheet, as in Ohyama. Since the light source is spaced away from the stimuable phosphor sheet, the linear light diffuses on the stimuable phosphor sheet. Thus, sharp linear light cannot be obtained with the combination of Ohyama and Struye, and the combination of these references would not have been obvious to one of ordinary skill in the art.

Therefore, claims 60, 66, 157, and 158 are allowable over the prior art, for at least the above-described reasons.

Rejection of claims 133-138:

Applicants submit that claims 133-138 are allowable over the prior art, for at least the same reasons presented above in relation to claims 60, 66, 157, and 158.

Rejection of claims 149 and 150:

Applicants submit that claims 149 and 150 are allowable over the prior art, at least because of their dependence from claims 60 and 66.

Also, modifying the teachings of Ohyama et al. and Struye et al. to include the collecting of image signals from the front and back surfaces of the stimuable phosphor sheet disclosed by Yasuda would contradict the alleged motivation to combine the Ohyama et al. and Struye et al. references. That is, the Examiner's asserted motivation to combine Ohyama et al. and Struye et al. would be to make the device more compact, but modifying the teachings of these two references to include Yasuda's teaching of collecting signals from both sides of the stimuable phosphor sheet would make the device of the Ohyama et al./Struye et al. combination less compact. Therefore, there is no suggestion or motivation to combine the references. Thus, claims 149 and 150 are allowable for this reason as well.

Rejection of claims 126, 132, 159, and 160:

Applicants submit that claims 126, 132, 159, and 160 are allowable over the prior art, for reasons analogous to those presented in relation to claims 60, 66, 157, and 158.

Rejection of claims 139-144:

Applicants submit that claims 139-144 are allowable over the prior art, for reasons analogous to those presented in relation to claims 60, 66, 157, and 158.

Rejection of claims 151 and 152:

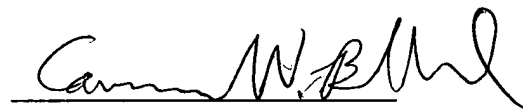
Applicants submit that claims 151 and 152 are allowable over the prior art, for reasons analogous to those presented in relation to claims 149 and 150.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/885,069

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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